

Appl. No. 10/696,005
Amdt. Dated April 19, 2005
Reply to Office December 22, 2004

Remarks

Claims 1-17 are pending in the present application. Claims 9-13 have been canceled by this Amendment, and thus only claims 1-8 and 14-17 are presently pending. Claims 1-3, 14 and 15 are rejected under 35 U.S.C. § 102(b) as being anticipated by Nakajima. Claims 1-8 and 14-17 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Hayashimoto in view of Ishinaga, and in view of various other references. In view of the following remarks, reconsideration and withdrawal of these grounds of rejection is requested.

Drawings

The drawings are objected to under 37 C.F.R. 1.83(a) as failing to show features specified in the claims. In particular, the Examiner contends that the limitation “a lens disposed in a conical recess in the reflector layer” of claim 16 is not shown in the drawings. Claim 16 has been canceled by this Amendment, and therefore reconsideration and withdrawal of this objection is respectfully requested.

Claim Rejections Under 35 U.S.C. § 102

Claims 1-3 & 14-15 are rejected under 35 U.S.C. 102(b) as being anticipated by Nakajima (Japanese Pat. App. JP 06232457). For the reasons set forth below, reconsideration and withdrawal of this ground of rejection is respectfully requested.

The present invention comprises, in one exemplary embodiment, a light-emitting diode (LED) package 300 including a reflector layer 310, an electrically insulating layer 320, and a

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dielectric layer 330 (See Figs. 3(a)-3(c)). In a preferred exemplary embodiment, the electrically insulating layer 320 (200) includes a first metallized portion 220 on a first (e.g., top) surface 215 thereof, a second metallized portion 230 on a second (e.g., bottom) surface 225 thereof (See Figs. 2(a)-2(d)). The electrically insulating layer 320 (200) also includes a third metallized portion 240 on a third (e.g., right side) surface 235 thereof, a fourth metallized portion 250 on a fourth (e.g., left side) surface 225 thereof.

Claim 1 has been amended to recite:

A semiconductor package comprising: an electrically insulating substrate layer; a non-conductive layer disposed on the electrically insulating substrate layer; and, a reflector layer disposed on the non-conductive layer, wherein the electrically insulating substrate layer includes at least one first metallized portion on a first surface thereof and at least one second metallized portion on a second surface thereof, said second surface opposite said first surface.
[emphasis added].

Thus, claim 1 now requires an “insulating substrate” with a “first metallized portion” disposed on a first surface of the substrate, and a “second metallized portion” disposed on a second opposing surface of the substrate. Nakajima fails to disclose, teach or suggest such an invention.

Nakajima teaches a light emitting diode device including light emitting diodes 4 provided on a first (top) side of a substrate 11 and coupled to electrodes 2 on the same side of the substrate (See Fig. 1). Nakajima also teaches a reflector frame 9 disposed above the light emitting diodes 4 on a coating resin 7.

Nakajima fails to disclose, teach or suggest a semiconductor package including an “insulating substrate” with a “first metallized portion” disposed on a first surface of the substrate,

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and a “second metallized portion” disposed on a second opposing surface of the substrate. In fact, Nakajima teaches absolutely nothing disposed on any other surface of the substrate 11 (emphasis added). Certainly, Nakajima does not disclose, teach or suggest any metallized portions disposed on the surface of the substrate 11 opposite the electrodes 2 and diodes 4. Accordingly, reconsideration and withdrawal of this ground of rejection with respect to claim 1, and claims 2 and 3, dependent thereon, is respectfully requested.

Independent claim 14 has been amended to recite similar limitations to those discussed above with respect to claim 1 (i.e., “first” and “second” metallized portions on opposing sides of a substrate). Therefore, for at least those same reasons discussed above with respect to claim 1, reconsideration and withdrawal of this ground of rejection with respect to claims 14 and 15, is also respectfully requested.

Claim Rejections Under 35 U.S.C. § 103

Claims 1-5 and 14-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hayashimoto et al. (U.S. Pat. App. No. 2004/0211970 A1) in view of Ishinaga (U.S. Pat. No. 6,355,946). For the reasons set forth below, reconsideration and withdrawal of this ground of rejection is respectfully requested.

The Applicants note that Hayashimoto was filed on May 27, 2003 and published on October 28, 2004, and therefore at best qualifies as a § 102(e) reference with respect to the present application (which was filed on October 29, 2003). However, the Applicants conceived of the present invention at least as early as January 22, 2003, as evidenced by the Affidavit of

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Prior Invention Under 37 1.131 (“131 Affidavit”), attached hereto as Exhibit 1. Accordingly, reconsideration and withdrawal of the present rejection of claims 1-5 and 14-15 under Hayashimoto in view of Ishinaga is respectfully requested.

Claims 6-8 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Hayashimoto in view of Ishinaga, and further in view of Kilian (U.S. Pat. App. No. 2004/0190836).

As noted above, Hayashimoto was filed on May 27, 2003 and published on October 28, 2004, and therefore at best qualifies as a § 102(e) reference with respect to the present application. The 131 Affidavit attached as Exhibit 1 to this Amendment renders this rejection moot. Therefore, reconsideration and withdrawal of the present rejection of claims 6-8 is respectfully requested.

Claims 16-17 are stated rejected under 35 U.S.C. 103(a) as being unpatentable over Hayashimoto in view of Ishinaga, and further in view of Waitl et al. (U.S. Pat. No. 6,610,563).

Again, as noted above, Hayashimoto was filed on May 27, 2003 and published on October 28, 2004, and therefore at best qualifies as a § 102(e) reference with respect to the present application. The 131 Affidavit attached as Exhibit 1 to this Amendment renders this rejection moot. Hence, reconsideration and withdrawal of the present rejection of claims 16-17 is respectfully requested.

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Conclusion

In view of the foregoing remarks, Applicants submit that this application is in condition for allowance at an early date, which action is earnestly solicited.

Respectfully submitted,

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